

CLAIMS

1. A feature changed image generating method for generating a new image from an input image, comprising:

5 providing a database in which a plurality of data, which are relating to a plurality of images respectively, are classified into a plurality of categories;

determining an image which is most similar to
10 said input image as a selected image based on a data belonging to a specified category specified from said plurality of categories; and

merging said selected image and said input image.

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2. The feature changed image generating method according to claim 1,

wherein a database in which said plurality of images are classified into said plurality of
20 categories is provided in said providing, and

an image which is most similar to said input image among images belonging to said specified category is selected as said selected image in said determining.

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3. The feature changed image generating method according to claim 1,

wherein a database in which constituent components of said plurality of images are classified into said plurality of categories is provided in said providing, and

5 said determining includes:

 determining a determined combination of said constituent components by which an image which is most similar to said input image is obtained by using said constituent components belonging to said specified
10 category; and

 generating an image which is most similar to said input image as said selected image based on said determined combination.

15 4. The feature changed image generating method according to claim 1,

 wherein a database in which said plurality of images are classified into said plurality of categories is provided, and each of said plurality of
20 categories includes a plurality of images which are gradual variations of an identical object on an attribute, and

 said determining includes:

 selecting an image which is most similar to
25 said input image among images belonging to a category included in said plurality of categories and corresponding to an attribute of said input image as a

similar image; and

determining an image relating to a same object with said similar image as said selected image from images belonging to said specified category.

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5. The feature changed image generating method according to claim 1,

wherein a database in which constituent components of said plurality of images are classified into said plurality of categories is provided, and each of said plurality of categories includes constituent components of a plurality of images which are gradual variations of an identical object on an attribute, and

15 said determining includes:

selecting a selected combination of said constituent components by which an image which is most similar to said input image is obtained, by using said constituent components belonging to a category included in said plurality of categories and corresponding to an attribute of said input image;

converting component coefficients corresponding to said selected combination into converted coefficients which are component coefficients corresponding to said specified category; and

generating said selected image by using said

converted coefficients and said constituent components belonging to said specified category.

6. The feature changed image generating method
5 according to any of claims 1 to 5,
 wherein each of said plurality of images is a
face image of a person, and
 said plurality of categories are categorized
based on an age.

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7. The feature changed image generating method
according to claim 6,
 wherein a category included in said plurality
of categories and corresponding to an age higher than
15 said specified age is selected as said specified
category when an age of a person on said input image
is lower than an age specified by a user.

8. The feature changed image generating method
20 according to claim 6,
 wherein a category included in said plurality
of categories and corresp -45- -45-onding to an age
lower than said specified age is selected as said
specified category when an age of a person in said
25 input image is higher than an age specified by a user.

9. A feature change applying method for gradually

applying a feature change to an input image,
comprising:

providing a database in which constituent
components of a plurality of images are classified
5 into a plurality of categories, wherein each of said
plurality of categories includes constituent
components of a plurality of images which are gradual
variations of an identical object on an attribute;

selecting a selected combination of said
10 constituent components by which an image which is most
similar to said input image is obtained, by using said
constituent components belonging to a category
included in said plurality of categories and
corresponding to an attribute of said input image; and
15 converting component coefficients
corresponding to said selected combination into
converted coefficients which are component
coefficients corresponding to said specified category.

20 10. The feature change applying method according
to claim 9,

wherein each of said plurality of images is a
face image of a person, and

said plurality of categories are categorized
25 by based on an age.

11. A feature changed image generating apparatus

for generating a new image from an input image,
comprising:

a storing unit configured to store a plurality
of data which are relating to a plurality of images
5 respectively and classified into a plurality of
categories;

an image determining unit configured to
determine an image which is most similar to said input
image as a selected image based on a data belonging to
10 a specified category specified from said plurality of
categories; and

a merging unit configured to merge said
selected image and said input image.

15 12. The feature changed image generating apparatus
according to claim 11,

wherein said plurality of images are
classified into said plurality of categories in said
storing unit, and

20 said image determining unit determines an
image which is most similar to said input image among
images belonging to said specified category as said
selected image.

25 13. The feature changed image generating apparatus
according to claim 11,

wherein a constituent components of said

plurality of images are classified into said plurality of categories in said storing unit, and

said image determining unit determines a determined combination of said constituent components by which an image which is most similar to said input image is obtained by using said constituent components belonging to said specified category, and generates an image which is most similar to said input image as said selected image based on said determined combination.

14. The feature changed image generating apparatus according to claim 11,

wherein said storing unit stores said plurality of images classified into said plurality of categories, and each of said plurality of categories includes a plurality of images which are gradual variations of an identical object on an attribute, and

said image determining unit selects an image which is most similar to said input image among images belonging to a category included in said plurality of categories and corresponding to an attribute of said input image as a similar image, and determines an image relating to a same object with said similar image as said selected image from images belonging to said specified category.

15. The feature changed image generating apparatus according to claim 11,

wherein constituent components of said plurality of images are classified into said plurality of categories in said storing unit, and each of said plurality of categories includes constituent components of a plurality of images which are gradual variations of an identical object on an attribute, and said image determining unit selects a selected combination of said constituent components by which an image which is most similar to said input image is obtained, by using said constituent components belonging to a category included in said plurality of categories and corresponding to an attribute of said input image, converts component coefficients corresponding to said selected combination into converted coefficients which are component coefficients corresponding to said specified category, and generates said selected image by using said converted coefficients and said constituent components belonging to said specified category.

16. The feature changed image generating apparatus according to any of claims 11 to 15,

wherein each of said plurality of images is a face image of a person, and said plurality of categories are categorized

based on an age.

17. The feature changed image generating apparatus
according to claim 16, further comprising a selecting
5 unit,

 wherein said selecting unit selects a category
included in said plurality of categories and
corresponding to an age higher than said specified age
as said specified category when an age of a person on
10 said input image is lower than an age specified by a
user.

18. The feature changed image generating apparatus
according to claim 16, further comprising a selecting
15 unit,

 wherein said selecting unit selects a category
included in said plurality of categories and
corresponding to an age lower than said specified age
as said specified category when an age of a person on
20 said input image is higher than an age specified by a
user.

19. A feature change applying apparatus for
gradually applying a feature change to an input image,
25 comprising:

 a storing unit in which constituent components
of a plurality of images are classified into a

plurality of categories; and

a component coefficient converting unit,

wherein each of said plurality of categories
includes constituent components of a plurality of
5 images which are gradual variations of an identical
object on an attribute, and

said component coefficient converting unit
selects a selected combination of said constituent
components by which an image which is most similar to
10 said input image is obtained, by using said
constituent components belonging to a category
included in said plurality of categories and
corresponding to an attribute of said input image, and
converts component coefficients corresponding to said
15 selected combination into converted coefficients which
are component coefficients corresponding into said
specified category.

20. The feature change applying apparatus
20 according to claim 19,

wherein each of said plurality of images is a
face image of a person, and

said plurality of categories are categorized
based on an age.

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21. A feature changed image generating program for
generating a new image from an input image executed by

a computer, comprising a storing device storing a plurality of data which are relating to a plurality of images respectively and classified into a plurality of categories, and

5 the feature changed image generating program causes the computer to execute:

 determining an image which is most similar to said input image as a selected image based on a data belonging to a specified category specified from said
10 plurality of categories; and

 merging said selected image and said input image.

22. The feature changed image generating program
15 according to claim 21,

 wherein said plurality of images are classified into said plurality of categories in said storing device, and

 the feature changed image generating program
20 causes the computer to execute determining an image which is most similar to said input image among images belonging to said specified category as said selected image.

25 23. The feature changed image generating program according to claim 21,

 wherein constituent components of said

plurality of images classified into said plurality of categories are stored in said storing device, and

the feature changed image generating program causes the computer to execute:

5 determining a determined combination of said constituent components by which an image which is most similar to said input image is obtained by using said constituent components belonging to said specified category; and

10 generating an image which is most similar to said input image as said selected image based on said determined combination.

24. The feature changed image generating program
15 according to claim 21,

wherein said storing device stores said plurality of images classified into said plurality of categories, and each of said plurality of categories includes a plurality of images which are gradual
20 variations of an identical object on an attribute, and

the feature changed image generating program causes the computer to execute:

selecting an image which is most similar to said input image among images belonging to a category
25 included in said plurality of categories and corresponding to an attribute of said input image as a similar image; and

determining an image relating to a same object with said similar image as said selected image from images belonging to said specified category.

5 25. The feature changed image generating program according to claim 21,

wherein said storing device stores constituent components of said plurality of images classified into said plurality of categories, and each of said
10 plurality of categories includes constituent components of a plurality of images which are gradual variations of an identical object on an attribute, and said feature changed image generating program causes the computer to execute:

15 selecting a selected combination of said constituent components by which an image which is most similar to said input image is obtained, by using said constituent components belonging to a category included in said plurality of categories and

20 corresponding to an attribute of said input image;

converting component coefficients corresponding to said selected combination into converted coefficients which are component coefficients corresponding to said specified category;

25 and

generating said selected image by using said converted coefficients and said constituent components

belonging to said specified category.

26. A feature change applying program for
gradually applying a feature change to an input image
5 executed by a computer,

 wherein the computer has a storing device in
which constituent components of a plurality of images
are classified into a plurality of categories, and
each of said plurality of categories includes
10 constituent components of a plurality of images which
are gradual variations of an identical object on an
attribute, and

 the feature change applying program causes the
computer to execute:

15 selecting a selected combination of said
constituent components by which an image which is most
similar to said input image is obtained, by using said
constituent components belonging to a category
included in said plurality of categories and
20 corresponding to an attribute of said input image; and
 converting component coefficients
corresponding to said selected combination into
converted coefficients which are component
coefficients corresponding to said specified category.